



# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8  
999 18<sup>TH</sup> STREET - SUITE 500  
DENVER, CO 80202-2466

## U.S. ENVIRONMENTAL PROTECTION AGENCY POLLUTION REPORT INITIAL

### I. HEADING

DATE: February 9, 1999  
SUBJECT: Antelope Mercury Removal  
FROM: Steven Hawthorn, Team Supervisor/OSC  
TO: Patty Smith, EPA Headquarters  
POLREP No.: INITIAL POLREP

### II. BACKGROUND

SITE No.: 8Y  
Response Agency: EPA Region VIII  
Address: 999 18th Street, Suite 500  
Denver, CO 80202  
Response Authority: CERCLA  
Party Conducting Action: EPA  
ERNS No.: SD98-1332  
Action Memorandum: 02/08/99  
Start Date: 12/30/98  
Completion Date: TBD

### III. SITE INFORMATION

#### A. Incident Category

Classic Emergency, Fund-Lead

#### B. Site Description

##### 1. Site Description



The Site is located in the northeast quarter in Section 4 of T.38N. and R.28W. The address is House 25, Cheyenne Road, Antelope Community, Mission South Dakota 57555. The Site is a house with 2 bedrooms, 1 bathroom, living room, dining room, and kitchen. It uses forced air for heating which helped the mercury to vaporize and spread throughout the rest of the house.

## 2. Description of Threat

The threat was from the mercury which had been handled by the children on-site (possibly even placed in the mouth of a pregnant teenager) and the mercury vapors emanating from the spilled metallic mercury. Air analysis conducted by EPA personnel using a Jerome indicated levels exceeding 0.025 mg/m<sup>3</sup> in the residence and 0.008 mg/m<sup>3</sup> on the clothes in a bag at Winner Regional Healthcare Center.

### C. Site Evaluation Results

The mercury was discovered by Ms. Garrett (owner of the residence) on December 28, 1998, when she removed a carpet from the bedroom and found mercury droplets on the floor. She notified the Rosebud Sioux Tribe Office/Indian Health Services (IHS) and the spill was reported to the National Response Center. When EPA ER and its contractor, START, responded to the scene they met at the Rosebud Sioux Tribe Office, were taken to the Site, and began sampling/monitoring.

Initial air monitoring with the Jerome 431-X Mercury Vapor Analyzer (Jerome) indicated elevated readings in the bedroom at 0.025 mg/m<sup>3</sup>. EPA and START then took Jerome readings at the college (including Ms. Garrett's office) where the remaining mercury, if any, was thought to be; no remaining mercury was found. Thereafter, EPA and START went to the Winner Regional Healthcare Center to follow-up on a report that some clothes that were thought to be contaminated had been bagged and left there. The bag was located in Room 206, where Ms. Garrett's 15-year-old pregnant niece was. Readings were taken in the hallway and the room with a Jerome. As soon as the bag was opened, readings in the room elevated. The bag had readings of 0.008 mg/m<sup>3</sup>. The Jerome was taken out into the hallway to clear all readings, and the process was

repeated with similar results.

#### IV. RESPONSE INFORMATION

##### A. Removal Actions to Date

On December 30, 1998, the OSC and EPA's START contractor mobilized to the Site. As previously mentioned in this report, they met with Tribe/IHS representatives to review their assessment of the situation.

Upon arriving at the Site EPA/START met with Larry Garrett, brother of the owner of the house, Ms. Irene Garrett. Ms. Garrett, her son, and her niece were hospitalized. Mr. Garrett informed EPA/START that the mercury had been discovered the previous day when they removed the carpet from the bedroom and found mercury droplets on the floor below. Every thing except a bedframe, small dresser, and small table were then taken out of the bedroom.

Initial monitoring with a Jerome indicated elevated readings ( $0.025 \text{ mg/m}^3$ ) in the bedroom, but the rest of the house showed lower readings. While verifying that the mercury vapors did not increase, the bedroom was swept except where beads of mercury were visible. A mercury kit was then used to prepare a slurry paste and push it from one side of the area that had not been swept to the other. The paste was placed in a disposal bag and the process was repeated. Final readings with the Jerome showed no mercury vapors present. The Personal Protective Equipment and disposal bag were placed in a garbage bag and staged for disposal with the other mercury contaminated material by the Rosebud Sioux Tribe. An air sampling pump was then calibrated and set up to draw 100 liters of air through a hopcalite tube over a 12-hour period. The windows of the bedroom were boarded, and the pump & sample tube were placed on a small table in the room. On the morning of 12/31/98 the air sampling process was completed and tubes were shipped to DataChem Laboratories for mercury analysis. Results showed an acceptable level for the family to move back into the house.

On 12/30/98 EPA and START also went to the college to determine if any remaining mercury was present. Jerome readings were taken; all of the readings were around

background level and no remaining mercury was found.

START and EPA then went to the Regional Healthcare Center to check clothes (of the 15-year pregnant girl) which had been bagged and reported to be contaminated. Readings of the Jerome in the hallway and room were zero; however, readings from the bag of clothes were as high as 0.008 mg/m<sup>3</sup>. The bag of clothes was confiscated to be disposed as mercury-contaminated by the Rosebud Sioux Tribe.

EPA and START demobilized and departed the Site on 12/31/98.

#### B. Planned Removal Actions

To date EPA/START have cleaned up the mercury spill and placed the PPE/contaminated materials in a drum. The actual mercury will be disposed of by EPA. The drum of PPE/contaminated materials will be disposed of by the Rosebud Sioux Tribe at an appropriate disposal facility.

#### C. Key Issues

There are no key issues identified at this time.

### V. COST INFORMATION

Total costs for this Removal Action are not anticipated to exceed the Project Ceiling which is \$25,000.